

Fatigue and sleep disorders in multiple sclerosis: is obstructive sleep apnea a link?

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In this small pilot study, published in the current issue of *Sleep and Breathing*, Dias and colleagues [1] try to identify multiple sclerosis (MS) patients who are at risk for obstructive sleep apnea (OSA) by applying the STOP-BANG questionnaire which has been validated as a screening tool for OSA in various populations, but not yet in MS patients [2]. Interestingly, almost half of the cohort exhibited STOP-BANG scores indicative of a high OSA risk, which was approximately threefold higher in men than in women. In men, a significant correlation between STOP-BANG scores and measures of daytime sleepiness (Epworth Sleepiness Scale) and fatigue (Fatigue Severity Scale) was reported. Although the study has some obvious methodological limitations discussed by the authors, such as a lack of a subsequent polysomnography (PSG) to confirm the presence of OSA in patients at high risk according to the STOP-BANG questionnaire, the attempt to shed light on the elusive influence of nocturnal sleep abnormalities on daytime sleepiness

and fatigue in MS is laudable. Fatigue is defined as “a subjective lack of physical and/or mental energy that is perceived by the individual or caregiver to interfere with usual and desired activities” [3]. Fatigue is the most frequent MS symptom, reported by up to 97% of patients [4–6], two thirds of whom consider it as their most disabling symptom [7]. Fatigue does not only exert a substantial negative impact on quality of life, but is also a major cause of unemployment in MS [8]. Fatigue has been related to neuroimaging findings [9], neuroendocrine dysregulation [10], XMRV virus infections [11], depression and cognitive dysfunction [12, 13]. However, despite its high prevalence, our knowledge on pathophysiology and treatment of MS-related fatigue is insufficient. Unfortunately, many neurologists exhibit a therapeutic nihilism towards this debilitating symptom in regarding fatigue as some immanent and intractable feature of the condition with which the patient “has to learn to live”. Only in recent years, a possible association of daytime fatigue with sleep disorders has become into focus; however, only very few studies have attempted to investigate the relationship between sleep disorders in general and MS-related fatigue by PSG or accelerometry and not only by questionnaires on sleep quality [14–17]. In sum, it is undoubtful that sleep disorders can contribute to daytime fatigue in MS. In a recently published study [18], the authors proposed a screening instrument for sleep disorders because owing to limited resources not every MS patient complaining of fatigue can be admitted to a sleep laboratory. Beyond that, it makes sense to develop a screening instrument especially for OSA in the context of MS-related fatigue to identify patients at high risk. Further polysomnographic investigations have to validate this specific STOP-BANG questionnaire in the context of MS-related fatigue. Secondly, prospective studies have to evaluate whether a consequent treatment of the respective sleep disorder will beneficially influence fatigue in MS. If this can be demonstrated, a new therapeutic horizon

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opens up for MS patients with fatigue as many sleep disorders, among them OSA, can be satisfactorily treated.

Although the exact prevalence of OSA in MS remains to be elucidated, the work by Dias and colleagues [1] emphasizes that every physician treating MS patients should be aware of the burden fatigue may pose on the affected patient and also of underlying sleep disorders such as OSA.

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